



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,304	02/27/2004	Yoshiharu Ikegawa	03500.101435	4360
5514 7590 01/24/2008 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER MCLEAN, NEIL R	
			ART UNIT 2625	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/787,304	Applicant(s) IKEGAWA, YOSHIHARU	
	Examiner Neil R. McLean	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 13-18 and 23-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In Claim 13-18 and 23-24, a "computer program" is being recited; however, computer program would reasonably be interpreted by one of ordinary skill in the art as software, per se. This subject matter is not limited to that which falls within a statutory category of invention because it is limited to a process, machine, manufacture, or a composition of matter. Software is a function descriptive material and a function descriptive material is non-statutory subject matter.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 4-8, 10-14, and 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US 6,538,764) in view of Iizumi et al. (US 6,891,638)

Regarding Claim 1:

Ueda discloses an information processing apparatus (e.g., Host Computer 1500 in Figure 1) which outputs data to be printed to an image forming apparatus (e.g., Printer 2500 in Figure 1) having an image forming unit (Printing Section 17 in Figure 1), transferring sequentially developed images to a recording medium (e.g., paper), and forming an image, comprising:

means for converting document data into image data (Printer Controller 2000 analyzes the document data and converts into dot patterns; Column 21, lines 51-55);  
and

transfer means (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10) for transferring the converted image data to the image forming apparatus.

Ueda does not disclose expressly a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

Iizumi et al. discloses wherein a color image forming apparatus (Shown in Figure 1), having a plurality of image forming units (Figure 1, 19-22 denote developers; Column 3, lines 1-4), and a transfer means (e.g., Color Space Converter 11 in Figure 1) in which the data is in accordance with a delay among the image forming units of the color image forming apparatus (12-14 are delay circuits for delaying YMCK data).

Ueda & Iizumi et al. are combinable because they are from the same field of endeavor of image processing; e.g., image processing apparatus's.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

The suggestion/motivation for doing so would have been to include color to a printer's capabilities in order create more pleasing documents.

Therefore, it would have been obvious to combine Iizumi et al.'s Color Printer with Ueda's Band Printing Apparatus to obtain the invention as specified in claim 1.

Regarding Claim 2:

Ueda further discloses the apparatus according to claim 1, wherein said transfer means divides the converted image data in a band unit and transfers the data (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10).

Regarding Claim 4:

Ueda further discloses an apparatus according to claim 1, wherein before an image on a current page is completely formed by the color image forming apparatus, forming an image on a next page can be started by said transfer means which transfers the image data on the next page before completely transferring the image data on the current page (Column 3, lines 22-34).

Regarding Claim 5:

The apparatus according to claim 4, further comprising: storage means for storing a memory capacity of memory storing image data in the color image forming apparatus; and

control means for controlling an order in which the divided image data is transferred by said transfer means depending on a data size (Column 4, lines 11-25) of the divided image data and the memory capacity.

Regarding Claim 6:

The apparatus according to claim 5, wherein when a storage capacity of the memory cannot store the image data of the current page and the image data of the next page in an overlapping portion between the current page and the next page in an image forming process, or when a storage capacity of the memory cannot store the image data of the next page and the image data of the current page in an overlapping portion between the current page and the next page in an image forming process, said control means controls to transfer the image data of the next page after transferring the image data of the current page (Column 8, lines 30-34).

Regarding Claim 7:

Ueda discloses an information processing method (e.g., The method described in Column 6, lines 4-22) for outputting data to be printed on an image forming apparatus (e.g., Printer 2500 in Figure 1) having an image forming unit (Printing Section 17 in Figure 1), transferring sequentially developed images in to a recording medium (e.g., paper), and forming an image, comprising:

a converting step of converting document data into image data (Printer Controller 2000 analyzes the document data and converts into dot patterns); and

a transfer step (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10) for transferring the image data to the image forming apparatus.

Ueda does not disclose expressly a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

Iizumi et al. discloses wherein a color image forming apparatus (Shown in Figure 1), having a plurality of image forming units (Figure 1, 19-22 denote developers; Column 3, lines 1-4), and a transfer means (e.g., Color Space Converter 11 in Figure 1) in which the data is in accordance with a delay among the image forming units of the color image forming apparatus (12-14 are delay circuits for delaying YMCK data).

Ueda & Iizumi et al. are combinable because they are from the same field of endeavor of image processing; e.g., image processing apparatus's.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

The suggestion/motivation for doing so would have been to include color to a printer's capabilities in order create more pleasing documents.

Therefore, it would have been obvious to combine Iizumi et al.'s Color Printer with Ueda's Band Printing Apparatus to obtain the invention as specified in claim 7.

Regarding Claim 8:

Ueda further discloses the method according to claim 7, wherein said transfer step divides the image data converted in said converting step in a band unit and



transfers the data (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10)..

Regarding Claim 10:

Ueda further discloses the method according to claim 7, wherein before an image on a current page is completely formed by the color image forming apparatus, forming an image on a next page can be started in said transfer step which transfers the image data on the next page before completely transferring the image data on the current page (Column 3, lines 22-34).

Regarding Claim 11:

The method according to claim 10, further comprising: a storing step of storing a memory capacity of memory storing image data in the color image forming apparatus; and

a control step of controlling an order in which the converted image data is transferred by said transfer means depending on a data size (Column 4, lines 11-25) of the converted image data and the memory capacity.

Regarding Claim 12:

The method according to claim 11, wherein when a storage capacity of the memory cannot store the image data of the current page and the image data of the next page in an overlapping portion between the current page and the next page in an image

forming process, or when a storage capacity of the memory cannot store the image data of the next page and the image data of the current page in an overlapping portion between the current page and the next page in an image forming process, said control step controls to transfer the image data of the next page after transferring the image data of the current page (Column 8, lines 30-34).

Regarding Claim 13:

Ueda discloses a program operated in an information processing apparatus (e.g., Host Computer 1500 in Figure 1) which outputs data to be printed on an image forming apparatus (e.g., Printer 2500 in Figure 1) having an image forming unit (Printing Section 17 in Figure 1), transferring sequentially developed images to a recording medium (e.g., paper), and forming an image, comprising:

a converting step of converting document data into image data (Printer Controller 2000 analyzes the document data and converts into dot patterns); and

a transfer step (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10) for transferring converted image data printed to the image forming apparatus.

Ueda does not disclose expressly a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

Iizumi et al. discloses wherein a color image forming apparatus (Shown in Figure 1), having a plurality of image forming units (Figure 1, 19-22 denote developers; Column 3, lines 1-4), and a transfer means (e.g., Color Space Converter 11 in Figure 1) in which the data is in accordance with a delay among the image forming units of the color image forming apparatus (12-14 are delay circuits for delaying YMCK data).

Ueda & Iizumi et al. are combinable because they are from the same field of endeavor of image processing; e.g., image processing apparatus's.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

The suggestion/motivation for doing so would have been to include color to a printer's capabilities in order create more pleasing documents.

Therefore, it would have been obvious to combine Iizumi et al.'s Color Printer with Ueda's Band Printing Apparatus to obtain the invention as specified in claim 13.

Regarding Claim 14:

Ueda further discloses the program according to claim 13, wherein said transfer step divides the image data converted in said converting step in a band unit and transfers the data (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10).

Regarding Claim 16:

Ueda further discloses the program according to claim 13, wherein before an image on a current page is completely formed by the color image forming apparatus, forming an image on a next page can be started in said transfer step which transfers the image data on the next page before completely transferring the image data on the current page (Column 3, lines 22-34).

Regarding Claim 17:

The program according to claim 16, further comprising: a storing step of storing a memory capacity of memory storing image data in the color image forming apparatus; and

a control step of controlling an order in which the converted image data is transferred by said transfer means depending on a data size (Column 4, lines 11-25) of the converted image data and the memory capacity.

Regarding Claim 18:

The program according to claim 17, wherein when a storage capacity of the memory cannot store the image data of the current page and the image data of the next page in an overlapping portion between the current page and the next page in an image forming process, or when a storage capacity of the memory cannot store the image data of the next page and the image data of the current page in an overlapping portion

between the current page and the next page in an image forming process, said control step controls to transfer the image data of the next page after transferring the image data of the current page (Column 8, lines 30-34).

Regarding Claim 19:

Ueda discloses an image forming apparatus (e.g., Host Computer 1500 in Figure 1) which is connected to an information processing apparatus (e.g., Printer 2500 in Figure 1) over a communications network (The communication mediums described in Column 26, lines 53-60), has an image forming unit (Printing Section 17 in Figure 1), transfers sequentially developed images to a recording medium (e.g., paper), and forms an image, comprising:

reception means (e.g., Input Section 15 in Figure 1) for receiving image data from the information processing apparatus; and

means for forming an image by sequentially developing an image in based on the received image data (e.g., Printing Section 17 in Figure 1), and transferring the developed image to a recording medium (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10).

Ueda does not disclose expressly a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

lizumi et al. discloses wherein a color image forming apparatus (Shown in Figure 1), having a plurality of image forming units (Figure 1, 19-22 denote developers; Column 3, lines 1-4), and a transfer means (e.g., Color Space Converter 11 in Figure 1) in which the data is in accordance with a delay among the image forming units of the color image forming apparatus (12-14 are delay circuits for delaying YMCK data).

Ueda & lizumi et al. are combinable because they are from the same field of endeavor of image processing; e.g., image processing apparatus's.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

The suggestion/motivation for doing so would have been to include color to a printer's capabilities in order create more pleasing documents.

Therefore, it would have been obvious to combine lizumi et al.'s Color Printer with Ueda's Band Printing Apparatus to obtain the invention as specified in claim 19.

Regarding Claim 20:

Ueda further discloses the apparatus according to claim 19, wherein said image data is divided in a band unit (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10).

Regarding Claim 21:

Ueda discloses an image forming method (e.g., The method described in Column 6, lines 4-22) for use with an apparatus (e.g., Host Computer 1500 in Figure 1) which is connected to a terminal device (e.g., Printer 2500 in Figure 1) over a communications network (The communication mediums described in Column 26, lines 53-60), has an image forming unit (e.g., Printing Section 17 in Figure 1), transfers sequentially developed images to a recording medium (e.g., paper), and forms an image, comprising:

a receiving step(e.g., Input Section 15 in Figure 1) of receiving image data from the terminal device; and

a step of forming an image by sequentially developing an image based on the image data received in said receiving step (e.g., Printing Section 17 in Figure 1), and transferring (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10) the developed image in color to a recording medium.

Ueda does not disclose expressly a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

Iizumi et al. discloses wherein a color image forming apparatus (Shown in Figure 1), having a plurality of image forming units (Figure 1, 19-22 denote developers; Column 3, lines 1-4), and a transfer means (e.g., Color Space Converter 11 in Figure 1) in which

the data is in accordance with a delay among the image forming units of the color image forming apparatus (12-14 are delay circuits for delaying YMCK data).

Ueda & Iizumi et al. are combinable because they are from the same field of endeavor of image processing; e.g., image processing apparatus's.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

The suggestion/motivation for doing so would have been to include color to a printer's capabilities in order create more pleasing documents.

Therefore, it would have been obvious to combine Iizumi et al.'s Color Printer with Ueda's Band Printing Apparatus to obtain the invention as specified in claim 21.

Regarding Claim 22:

Ueda further discloses the method according to claim 21, wherein said image data is divided in a band unit (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10).

Regarding Claim 23:

Ueda discloses a computer-readable program for use with an apparatus (e.g., Host Computer 1500 in Figure 1) which is connected to a terminal device (e.g., Printer 2500 in Figure 1) over a communications network (The communication mediums



described in Column 26, lines 53-60), has an image forming unit (e.g., Printing Section 17 in Figure 1), transfers sequentially developed images to a recording medium (e.g., paper), and forms an image, comprising:

a receiving step (e.g., Input Section 15 in Figure 1) of receiving image data from the terminal device; and

a step of forming an image (e.g., Printing Section 17 in Figure 1) by sequentially developing an image based on the image data received in said receiving step, and transferring (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10) the developed image to a recording medium.

Ueda does not disclose expressly a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

Iizumi et al. discloses wherein a color image forming apparatus (Shown in Figure 1), having a plurality of image forming units (Figure 1, 19-22 denote developers; Column 3, lines 1-4), and a transfer means (e.g., Color Space Converter 11 in Figure 1) in which the data is in accordance with a delay among the image forming units of the color image forming apparatus (12-14 are delay circuits for delaying YMCK data).

Ueda & Iizumi et al. are combinable because they are from the same field of endeavor of image processing; e.g., image processing apparatus's.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a color image forming apparatus, having a plurality of image forming units, and a transfer means in which the data is in accordance with a delay among the image forming units of the color image forming apparatus.

The suggestion/motivation for doing so would have been to include color to a printer's capabilities in order create more pleasing documents.

Therefore, it would have been obvious to combine Iizumi et al.'s Color Printer with Ueda's Band Printing Apparatus to obtain the invention as specified in claim 23.

Regarding Claim 24:

Ueda further discloses the program according to claim 23, wherein said image data is divided in a band unit (Printing information transferred from the host to the printer is divided into bands; Figures 2A and 2B; Column 22, lines 5-10).

6. Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US 6,538,764) in view of Iizumi et al. (US 6,891,638) and further in view of Toda (US 7,023,579).

Regarding Claim 3:

The apparatus according to claim 2, wherein said transfer means compresses the image data divided in the band unit and transfers the data.

Regarding Claim 9:

The method according to claim 8, wherein said transfer step compresses the image data divided in the band unit and transfers the data.

Regarding Claim 15:

The program according to claim 14, wherein said transfer step compresses the image data divided in the band unit and transfers the data.

Ueda and Iizumi et al. disclose all of the limitations of Claims 1, 8 and 14.

Ueda and Iizumi et al. do not disclose expressly wherein said transfer means compresses the image data and transfers the data.

Toda discloses wherein said transfer means compresses the image data and transfers the data (Column 8, lines 49-56).

Toda & Ueda and Iizumi et al. are combinable because they are from the same field of endeavor of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to compress the image data prior to sending to the print unit.

The suggestion/motivation for doing so would have been to save time, money and bandwidth.

Therefore, it would have been obvious to combine Ueda's compression utility with Ueda and Iizumi et al.'s image processor to obtain the invention as specified in claims 3, 9, and 15.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kawata et al. (US 6,219,149) discloses a print processing apparatus realizes high speed processing of input data which includes various types of drawing objects such as images, graphics and characters. In the apparatus, input data generated by an input data generating unit is converted into intermediate data in an intermediate data generating element.

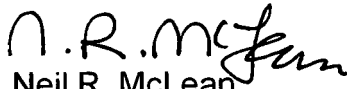
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. McLean whose telephone number is 571.270.1679. The examiner can normally be reached on Monday through Friday 7:30AM-5:00PM EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571.272.7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/787,304  
Art Unit: 2625

Page 20

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Neil R. McLean  
01/21/2008

  
KING Y. POON  
SUPERVISORY PATENT EXAMINER